

**EMBEDDED MOEMS SENSOR FOR FLUID  
DIELECTRICS IN RF APPLICATIONS****ABSTRACT OF THE DISCLOSURE**

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An RF system (100) can include one or more RF circuits (108) coupled to a fluid dielectric (106). The RF circuit can be disposed on a portion of a dielectric substrate (102) which also contains the fluid dielectric. A light source 302 is provided for transmitting optical radiation through a portion of the fluid dielectric in a transmitted  
10 direction. A sensor (304) measures at least one parameter indicative of a change of direction of the optical radiation relative to the transmitted direction. According to one aspect, the light source and/or the sensor can be disposed within the dielectric substrate of the RF system. An output of the sensor can be coupled to a processor (322, 422) for determining a condition of the fluid dielectric based on the measured  
15 parameter.